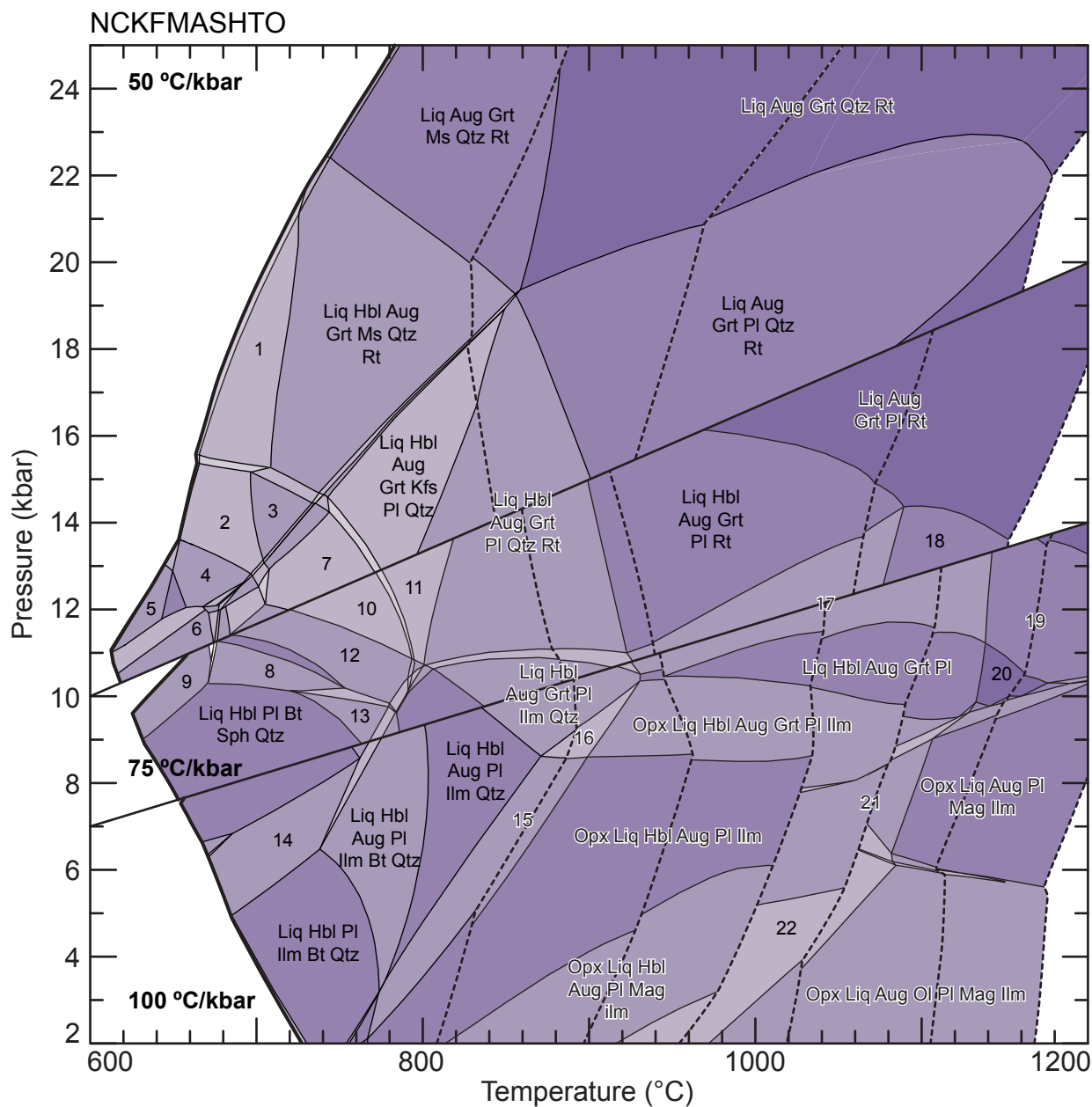


Supplementary Figure 1



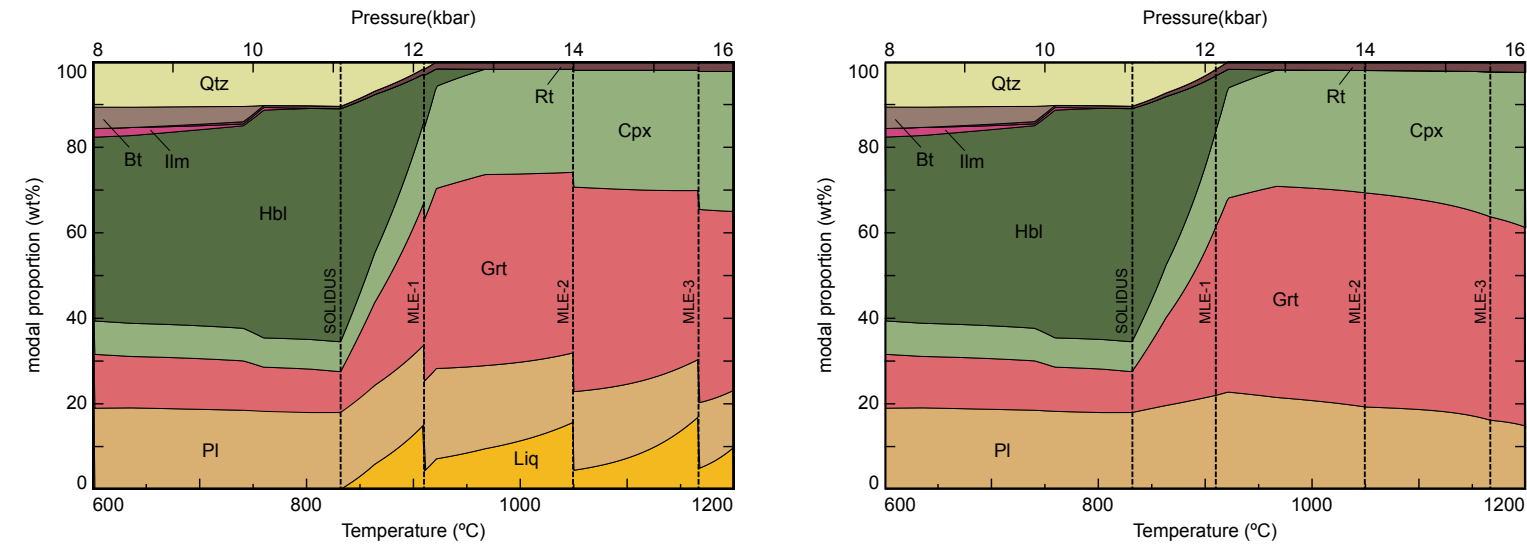
- 1—Liq Hbl Aug Grt Ep Ms Qtz Rt
- 2—Liq Hbl Aug Grt Ep Ms Sph Qtz
- 3—Liq Hbl Aug Grt Ms Sph Qtz
- 4—Liq Hbl Aug Ep Ms Sph Qtz
- 5—Liq Hbl Ep Bt Ms Sph Qtz
- 6—Liq Hbl Pl Ep Bt Sph Qtz
- 7—Liq Hbl Aug Grt Kfs Pl Sph Qtz
- 8—Liq Hbl Kfs Pl Bt Sph Qtz
- 9—Liq Hbl Pl Ep Bt Sph Qtz
- 10—Liq Hbl Aug Grt Kfs Pl Sph Qtz

- 11—Liq Hbl Aug Grt Kfs Pl Qtz Rt
- 12—Liq Hbl Aug Kfs Pl Sph Qtz
- 13—Liq Hbl Aug Pl Sph Qtz
- 14—Liq Hbl Pl Ilm Bt Sph Qtz
- 15—Opx Liq Hbl Aug Pl Ilm Qtz
- 16—Opx Liq Hbl Aug Grt Pl Ilm Qtz
- 17—Liq Hbl Aug Grt Pl Ilm Rt
- 18—Liq Aug Grt Pl Ilm Rt
- 19—Liq Aug Grt Pl Ilm Rt
- 20—Liq Aug Grt Pl Ilm

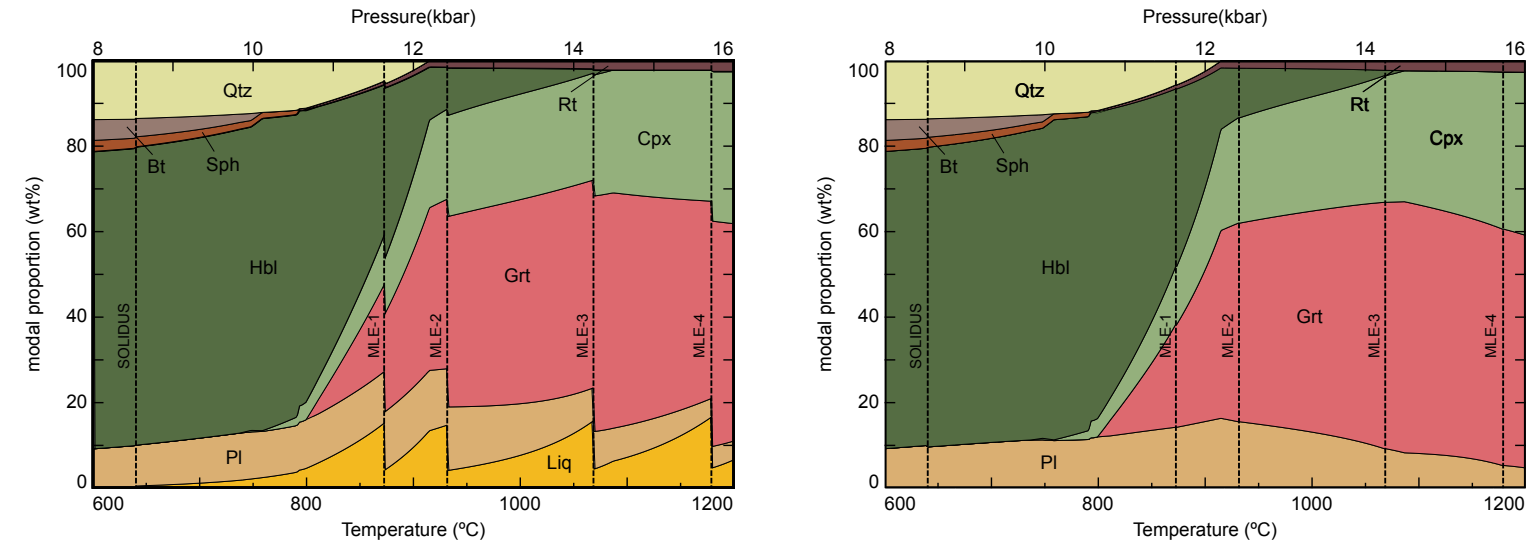
- 21—Opx Liq Hbl Aug Pl Mag Ilm
- 22—Opx Liq Hbl Aug Ol Pl Mag Ilm

Supplementary Figure 2

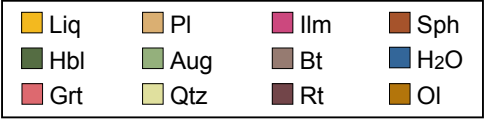
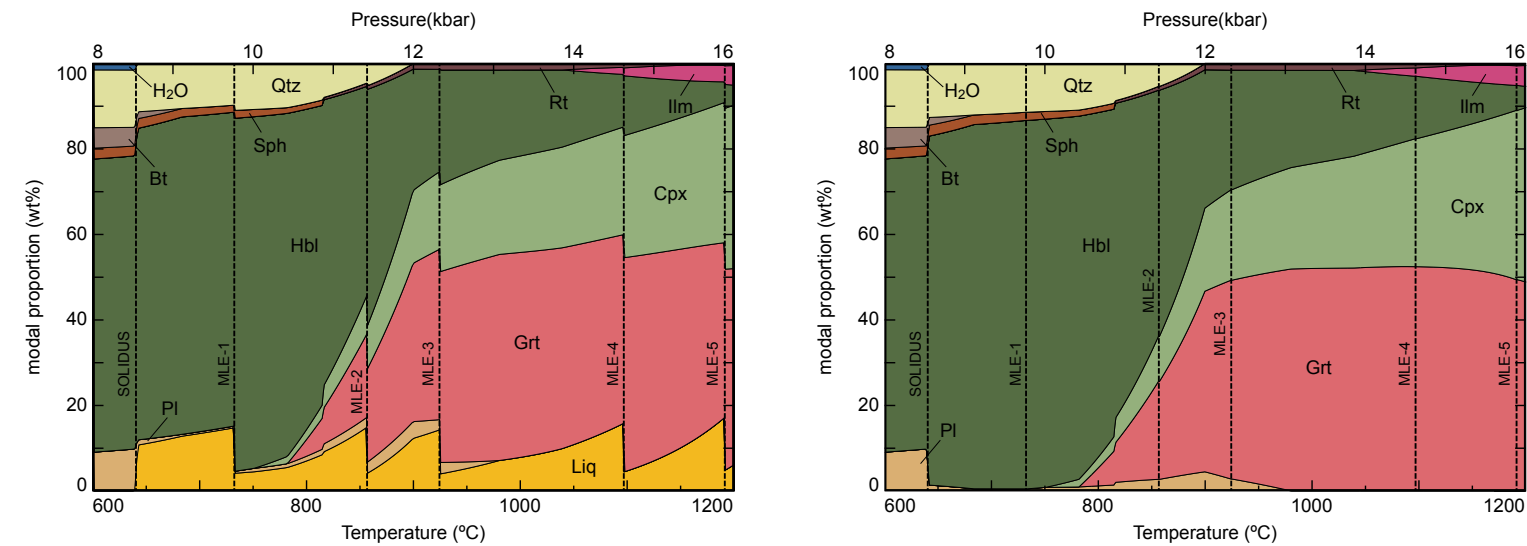
Water under-saturated: 1.0 wt% H<sub>2</sub>O



Minimally water-saturated solidus

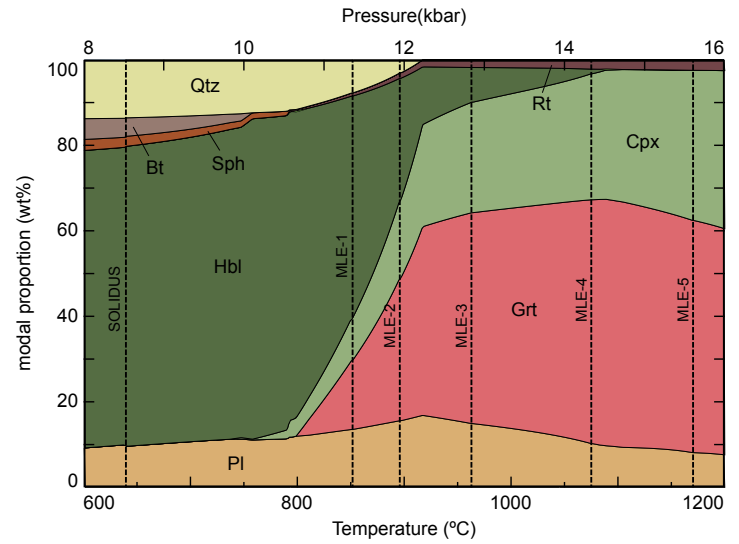
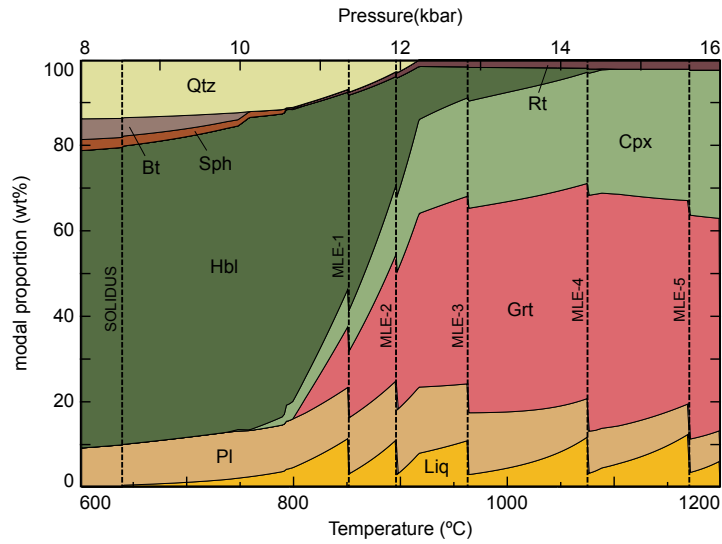


Water saturated: 3.0 wt% H<sub>2</sub>O

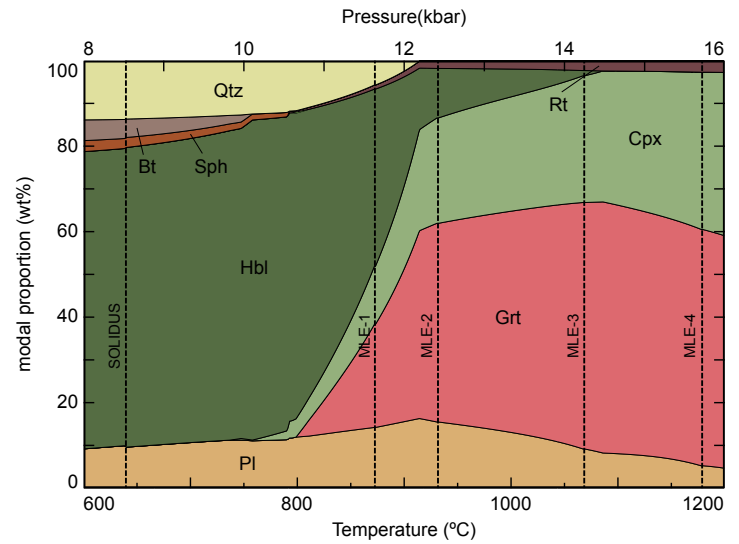
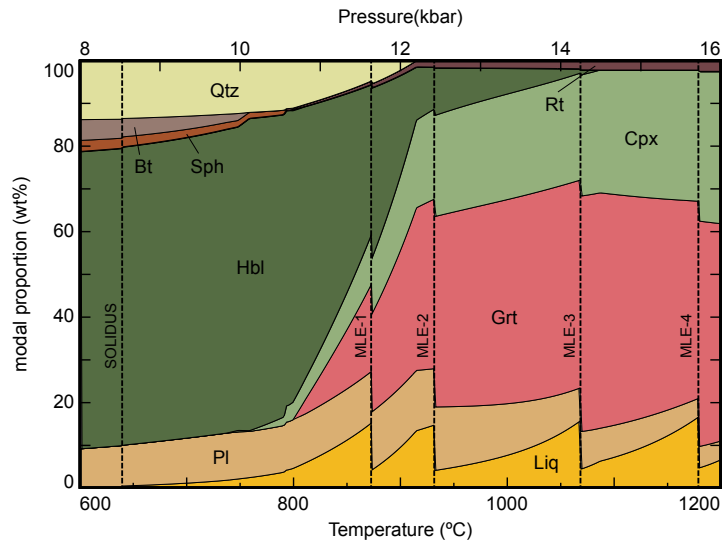


## Supplementary Figure 3

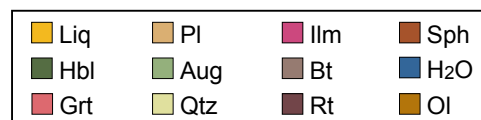
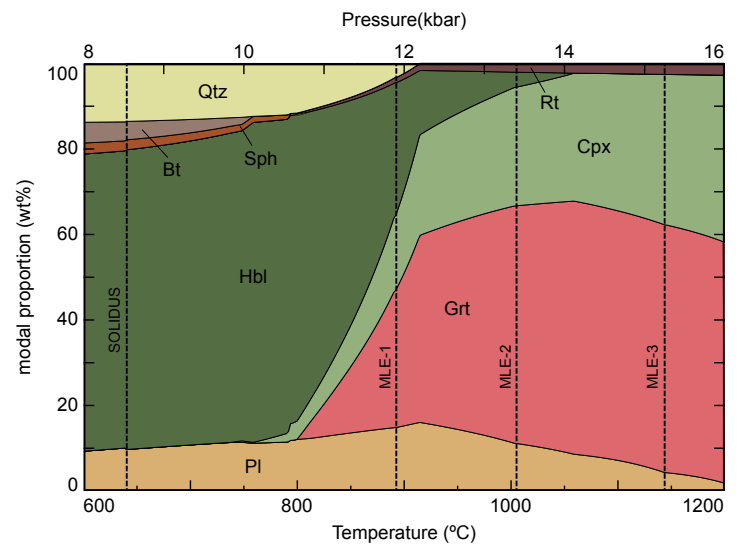
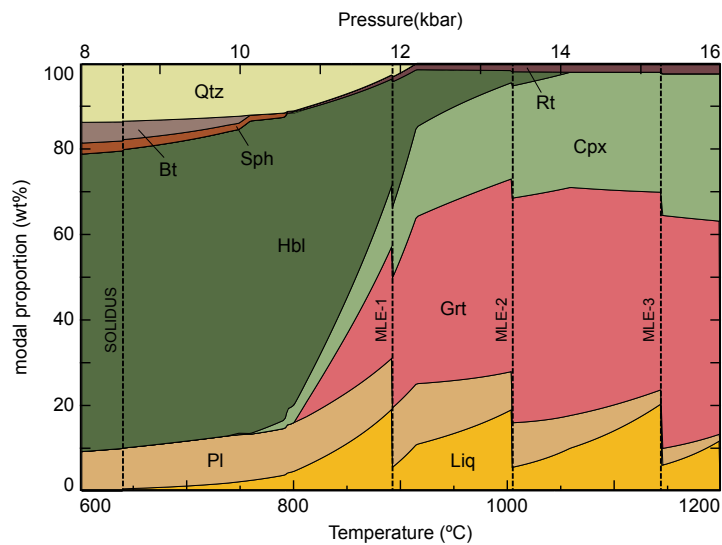
Critical melt fraction = 15 vol%



Critical melt fraction = 20 vol%

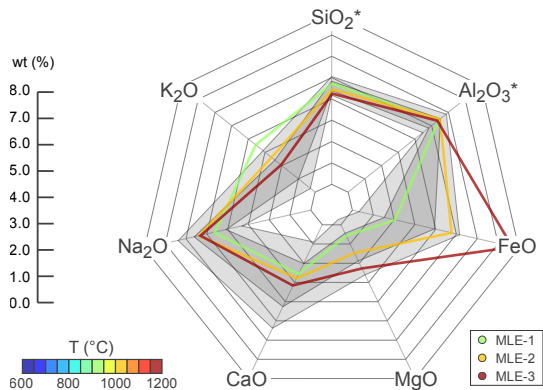


Critical melt fraction = 25 vol%

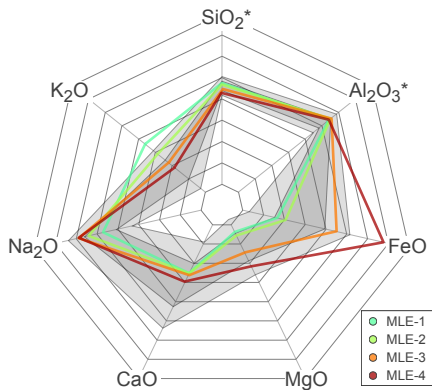


## Supplementary Figure 4

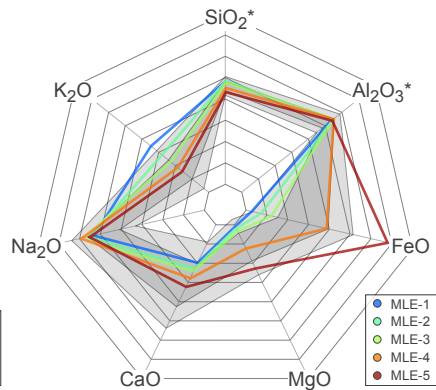
Water-undersaturated: 1.0 wt% H<sub>2</sub>O



Minimally water-saturated solidus

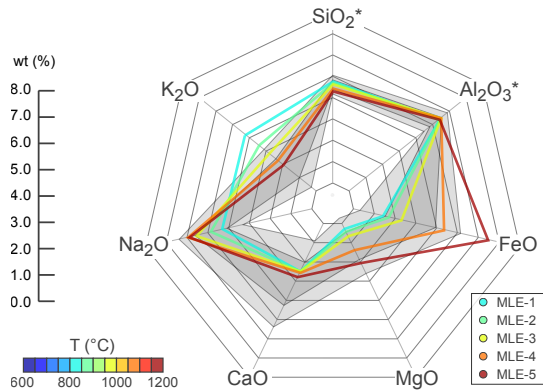


Water-saturated: 3.0 wt% H<sub>2</sub>O

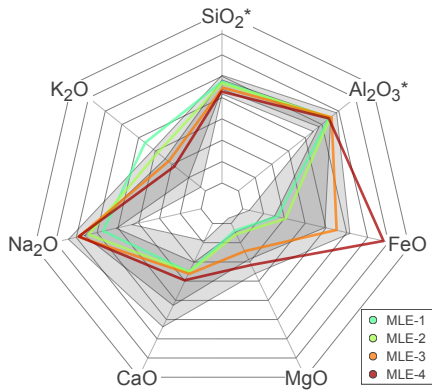


## Supplementary Figure 5

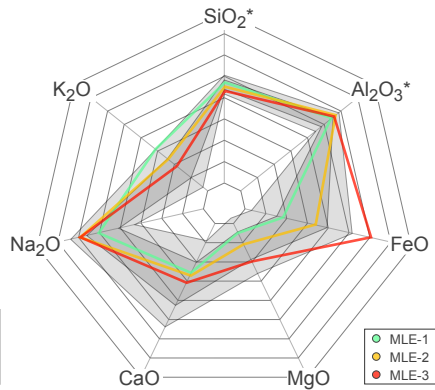
Critical melt fraction = 15 vol%



Critical melt fraction = 20 vol%



Critical melt fraction = 25 vol%



## Supplementary Figure 6

